Immunology and Parasitology

Research emphasis:
Dr. Hammerberg’s research shifted from the pathogenesis of lymphatic filariasis to the role of immunoglobulin E (IgE) in canine atopic dermatitis in the mid-1990s when his laboratory generated a heterohybridoma from canine B cells from nematode-infected lymph nodes that produced monoclonal canine IgE with specificity for a filarial nematode allergen. With this unique resource, monoclonal antibodies with very high affinity for canine IgE were developed to improve IgE-based diagnostic assays and to block IgE sensitization of basophils and mast cells for treatment of allergic diseases in dogs. Recombinant chimeras of single chain variable fragment antibodies directed at IgE B cells to induce anergy and/or apoptosis are in development.

Selected publications:


Application:
- Therapeutic monoclonal antibodies
- Allergic diseases of dogs, cats, horses
- IgE network-based diagnostics

Collaboration potential:
- IgE high affinity receptor function in immunomodulation
- IgE high affinity receptor function in neurological function